

FIG. 1 (PRIOR ART)

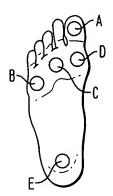


FIG. 2 (PRIOR ART)

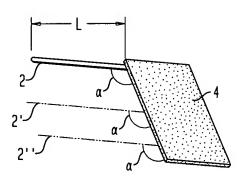
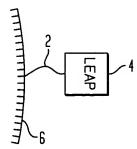


FIG. 3 (PRIOR ART)





## FIG. 4

PRE-LOAD MACHINE WITH HANDLE-FORMING MATERIAL AND TEST ELEMENT MATERIAL

HAND FEED HANDLE-FORMING MATERIAL INTO SCORING STATION TO FORM FIRST AND SECOND PORTIONS OF HANDLE

HANDLE-FORMING MATERIAL PASSES THROUGH STATIONARY FOLDING DOWELS WHICH FOLD FIRST PORTION OF HANDLE-FORMING MATERIAL TOWARDS THE SECOND PORTION OF THE HANDLE FORMING MATERIAL

THE HANDLE-FORMING MATERIAL IS THEN SPLIT INTO TWO DISTINCTIVE HALVES IN PREPARATION FOR TEST ELEMENT INSERTION

PRE-HEAT TEST ELEMENT MATERIAL BY FEEDING THROUGH HEATING CHAMBER

INSERT TEST ELEMENT MATERIAL WITHIN THE SEPARATED SPACE BETWEEN THE FIRST AND SECOND PORTIONS OF THE HANDLE-FORMING MATERIAL

HEAT SEAL OR MECHANICALLY BOND THE HANDLE-FORMING MATERIAL TO SECURE THE TEST ELEMENT MATERIAL

PROPER LENGTH OF TEST ELEMENT MATERIAL IS CUT FROM ITS SPOOL AFTER THE HEAT SEAL OR BONDING WITHIN THE HANDLE-FORMING MATERIAL IS COMPLETE

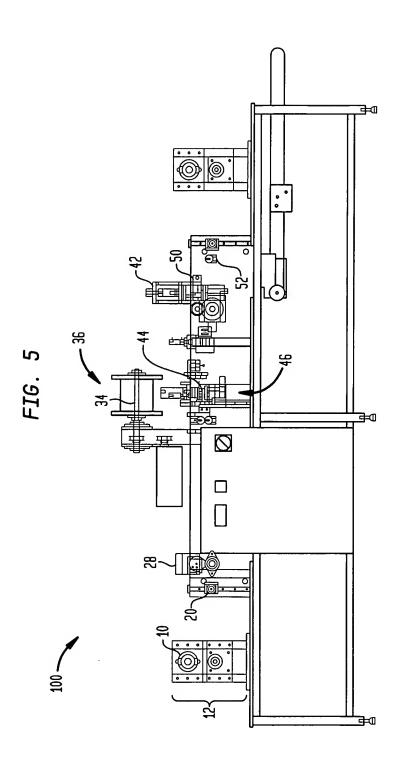
PRODUCT ADVANCES TO A LOAD SENSOR STATION THAT PERFORMS QUALITY CONTROL BY CHECKING FOR THE PROPER GRAM FORCE BUCKLING STRENGTH OF THE TEST ELEMENT

IF THE GRAM FORCE MEASURED IS
OUTSIDE OF AN ACCEPTABLE TOLERANCE
RANGE, A GUILLOTINE KNIFE IS
ACTIVATED WHICH CUTS OFF THE TEST
ELEMENT IN TOTO, THUS CREATING A
REJECTED UNIT

IF THE GRAM FORCE OF THE PRODUCT IS ACCEPTABLE.

IT ADVANCES TO THE LAST STATION
THAT EITHER CUTS THE HANDLE FORMING
MATERIAL TO CREATE INDIVIDUAL UNITS
THAT ARE ROUTED TO A COLLECTION
CONTAINER FOR PACKAGING OR SCORES
THE HANDLE MATERIAL TO CREATE INDIVIDUAL
PERFORATED/CONJOINED UNITS REWOUND TO
FORM A "TEAR-OFF" DISPENSER ROLL







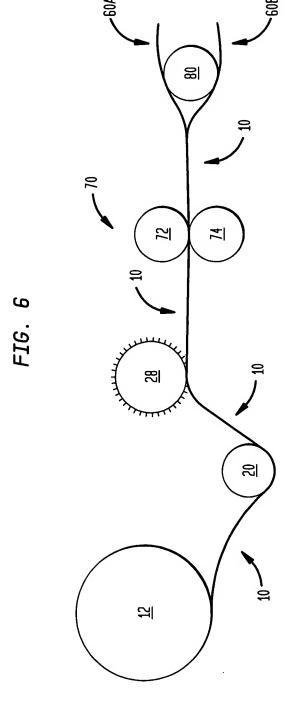
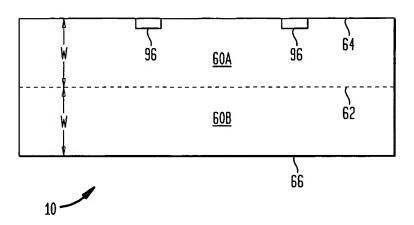




FIG. 7



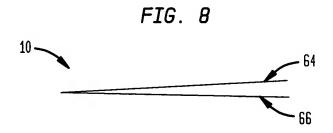


FIG. 9

